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# MANAGEMENT OF U. S. COAST GUARD INFORMATION SECURITY PROGRAM USING MANAGEMENT BY OBJECTIVES

Bradley Joseph Willis

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# THESIS

MANAGEMENT OF U.S. COAST GUARD
INFORMATION SECURITY PROGRAM
USING MANAGEMENT BY OBJECTIVES

by

Bradley Joseph Willis

September 1979

Thesis Advisor: J. W. Creighton

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# Management of U.S. Coast Guard Information Security Program Using Management by Objectives

by

Bradley Joseph Willis
Lieutenant, United States Coast Guard
B.S., United States Coast Guard Academy, 1974

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

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This thesis is a study of the management process of management by objectives and its use as a method for management of the United States Coast Guard information security program. The thesis develops management by objectives as a systematic, phased process which managers throughout the Coast Guard security program could be encouraged to use. Several problem areas in the security program have been identified and analyzed. Solutions within a management by objectives context have been proposed for these problems. This study has combined MBO theory and discussion of specific problems in the Coast Guard security program so that managers could have a foundation for installing management by objectives.

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# I. INTRODUCTION

## A. PURPOSE

The purpose of this thesis is to study the management concept of management by objectives and to present it in a way that supports increased utilization of this method in the U.S. Coast Guard information security program. This introductory chapter begins with a general description and appraisal of the environment in which this program functions and concludes with a statement of the scope of this study.

## B. THE INFORMATION SECURITY PROGRAM

The security program of the Coast Guard is designed to ensure that restricting and damaging forces do not hamper, hinder, or destroy mission effectiveness or jeopardize national security.[1] To minimize such possibilities, certain information of special importance to the national security has been designated as "classified," with requirements for its protection and usage drawn up commensurate with its importance. Four major security areas are considered:

1. Physical security, the physical measures designed to prevent unauthorized access to classified materials and equipment.

2. Technical security, the defensive measures against clandestine surveillance devices and schemes.

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[1]U.S. Coast Guard, Office of Investigations and Security, Security Manual, CG-444, pp. 203.

3. Personnel security, the process of determining that civilian and military access to sensitive information is clearly consistent with the interests of national security.

4. Communications security, the protection of information relating to or derived from telecommunications.

The U.S. Coast Guard is truly a unique government agency. It is a military service, an armed force of the United States, extensively integrated with the Navy in many operational and support activities on the one hand; and a federal regulatory agency situated within an otherwise entirely civilian Department of Transportation on the other. The possibility for role conflict and identity problems is certainly present and has been the subject of numerous essays and articles by concerned Coast Guard people. This dual identity lies as a backdrop to the study of all programs undertaken by the service. The problems encountered in the Coast Guard security program derive from or fall within the general categories discussed below.

1. In the pecking order of programs calling for managerial resources and attention, the security program has usually resided near the bottom. Although it has always been possible to find commands and individuals with a zealous concern for security, these efforts must, as a rule, be attributed to individual initiative at whatever level in the hierarchy they are found. One District Security Manager poignantly described the security program's place as being on the "back-burner" of Coast Guard priority lists.

2. Management control of the program continues to suffer from a disturbing dearth of consistency and clarity both in the written material distributed to users for their guidance and direction and in the interpretation of requirements as they apply to specific commands.

3. The education of managers and users of classified material has improved greatly in recent years but has still not reached the desired level. Security awareness as a pervasive condition is the desired state, one yet to be fully realized.

One of the colorful, esteemed traditions of the Coast Guard is the practice of encouraging individual initiative and innovation in getting the job done. Throughout the service, decentralized decision making and reliance upon trained initiative are emphasized and rewarded. The development of the tradition can be traced to a chronic shortage of men, material, and money at many commands, necessitating a "make do" approach to problem solving. Additionally, the Coast Guard is a small but far-flung organization with many units operating in remote areas virtually autonomously. Generally speaking, the service and the public it serves benefit in numerous ways from this mode of operation. Nevertheless, from the standpoint of the program manager who recognizes the importance of standardization for many aspects of his program, immoderate devotion to the tradition can greatly complicate his job. The standardization of

certain programs would contribute substantially to efficient accomplishment of the Coast Guard missions.

## C. SOME TERMS DEFINED

To provide the reader with an understanding of some of the frequently used terms in this thesis, this section is a compilation of the most important ones.

1. Access: The ability and opportunity to obtain knowledge or possession of classified information.

2. Classified Information: Official information which has been determined to require, in the interests of national security, protection against disclosure and which has been so designated.

3. Clearance: An administrative determination by competent authority, usually the commanding officer, that an individual is eligible for access to classified information of a specific classification category.

4. Command or Unit: An entity whose ranking officer has operational and administrative authority over the personnel and property designated as his responsibility.

5. Compromise: A security violation which has resulted in confirmed or suspected exposure of classified information or material to an unauthorized person.

6. Custodian: An individual who has possession of or is otherwise charged with the responsibility for safeguarding and accounting for classified information.

7. Security: A protected condition of classified information which prevents unauthorized persons from obtaining information of direct or indirect military value.[2]

8. Security Manager: The prime mover and key individual in the security program. Security Managers are found at three levels in the Coast Guard organizational scheme: at the Headquarters, District, and unit levels.

Every Coast Guard unit and the material it holds are the responsibility of the commanding officer of that unit and the custodian that he designates. The Security Managers, likewise designated, are the program managers, accountable to their immediate superior who nearly always is the commanding officer. The unit Security Manager is usually not simultaneously a custodian of classified material, although this arrangement is not expressly forbidden. He has overall responsibility for ensuring that the procedures, requirements and day-to-day operation of the security program are correct, but is directly responsible for only the material he has "signed" for. Figure 1 is an organizational diagram of the security program. The Security Manager's duties are numerous, detailed, and encompassing. It suffices to say that every matter, whether centrally or peripherally involved with security, falls within his sphere of interest and authority. This multi-faceted job features the roles of inspector, educator in security matters, advisor to higher authority,

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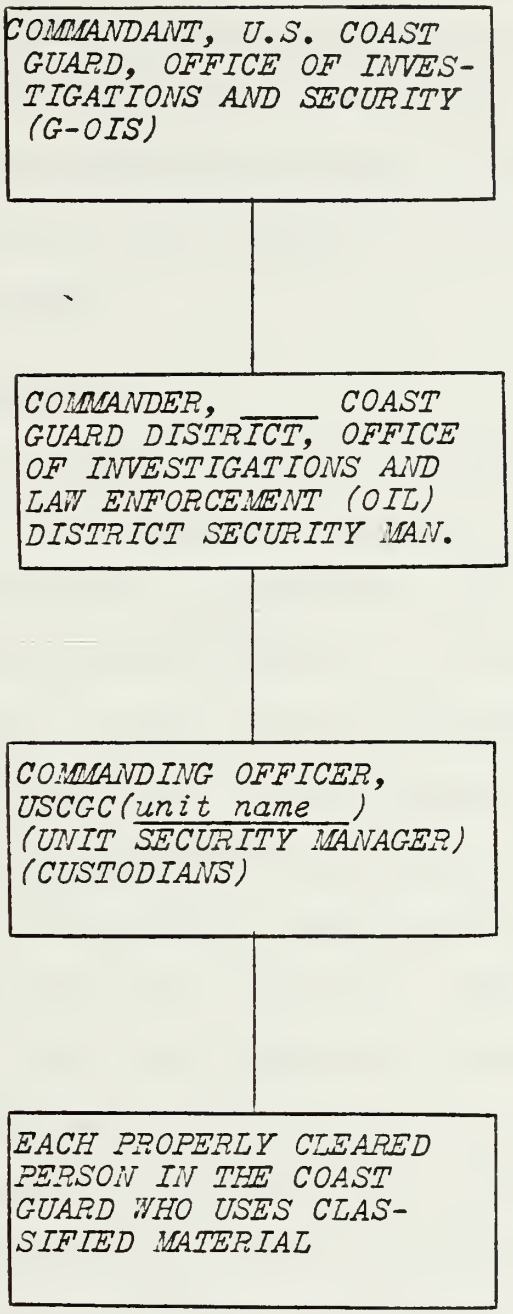
[2]CG-444, pp. 1-4 through 1-9.

*FIGURE ONE*


COMMANDANT, U.S. COAST GUARD, OFFICE OF INVESTIGATIONS AND SECURITY (G-OIS)
COMMANDER, ____ COAST GUARD DISTRICT, OFFICE OF INVESTIGATIONS AND LAW ENFORCEMENT (OIL) DISTRICT SECURITY MAN.
COMMANDING OFFICER, USCGC(unit name) (UNIT SECURITY MANAGER) (CUSTODIANS)
EACH PROPERLY CLEARED PERSON IN THE COAST GUARD WHO USES CLASSIFIED MATERIAL

*SECURITY PROGRAM HIERARCHY*

administrator, evaluator, and resident expert, particularly at the District level. Most District Security Managers are Commissioned Warrant Officers with up to two decades of experience as enlisted men of the Radioman rating and involvement with classified material. Upon these men falls the brunt of the security program in all four of the areas described previously.

## D. SCOPE OF STUDY

This study incorporates material from a number of sources. The first task was a review and analysis of literature on management by objectives (henceforth often referred to as MBO). A wealth of printed matter on the subject is available, necessitating use of only the most pertinent candidates. Secondly, interviews with the individuals holding District Security Manager billets were conducted. These men described their jobs and the attendant problems with obvious complete frankness and in the most lucid way. Thirdly, the security program of one Coast Guard district, the Twelfth Coast District, headquarters in San Francisco, California, was observed in detail. The method used was one of examination of data collected from the files on each operational unit in the district. Security inspection reports, physical security surveys, and miscellaneous memos and messages comprise these files. Finally, the Security Manager of the Twelfth District was available for personal comment at length on items of interest. And, last but not least, the author brought four

years of experience as a junior officer working with security-related matters with him and did not hesitate to draw upon the events and impressions of those years.

## II. THE HISTORY OF MANAGEMENT BY OBJECTIVES

Richard H. Hall states that MBO is an "attempt to improve rationality in an organization and works best when objectives are easily quantified."[3] MBO offers an approach to managerial problem solving and goal formulation which provides a means for dealing with the problems facing Security Managers. It is a procedure by which critical analysis of organizational situations can result in identification of the need for change and improvement. It is, therefore, the author's opinion that management by objectives is an appropriate concept with which to manage the Coast Guard's security program.

### A. MANAGEMENT BY OBJECTIVES DEFINED

In trying to define management by objectives, one discovers immediately that the term has been described differently by each writer on the subject. Several definitions have been selected to illustrate the language used to express the concept of MBO:

> "In brief, the system of management by objectives can be described as a process whereby the superior and subordinate managers of an organization jointly identify its common goals, define each individual's major areas of responsibility in terms of the results expected of him, and use these measures

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[3]Hall, Richard, Organizations: Structure and Process, p. 298, Prentice-Hall, 1977.

as guides for operating the unit and assessing the contribution of each of its members."[4]

"Management by objectives and self-control may properly be called a philosophy of management. It rests on a concept of the job of management. It rests on a concept of human action, behavior, and motivation. It applies to every manager, whatever his level and function, and to any organization whether large or small."[5]

"Managing by objectives is a strategy of planning and getting results in the direction that management wishes and needs to take while meeting the goals and satisfaction of its participants."[6]

Each of these three definitions says something different today about MBO, and in their entirety they incorporate all of the important managerial ideas. It is important for a manager adopting a particular technique to have a definition at hand that can serve as the groundwork for developing his system.

## B. THE HISTORICAL BACKGROUND

The leading proponents of the MBO concept have contributed to its evolution up to the present day. Peter Drucker was the originator of the term and has been one of its principal theorists. It was he who in 1954, in his book Practice of Management, publicized the desirability of managing by

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[4]Odiorne, G., Management by Objectives, p. 55, Pitman, 1965.

[5]Drucker, P., Management: Tasks, Responsibilities, Practice, p. 442, Harper and Row, 1973.

[6]Mali, P., Managing by Objectives, p. 1, Wiley and Sons, 1972.

objectives from the highest to the lowest level of the organization in a way that supports the objectives of the highest levels of management.[7] Later, Douglas MacGregor of Theory X and Y fame modified and expanded the MBO concept, presenting it more as a performance appraisal technique than as an activities integration method.[8] In recent years, testing and research studies have been conducted of management by objectives in practice. The implication from these studies is that MBO can substantially improve managerial performance, attitudes, and planning but that it is likely to fail if insufficient time and expenditure of effort are alloted for its implementation.[9] Today, MBO can be found in a large number of both business and non-profit organizations. In the private sector, perhaps a majority of firms use MBO in some form or another. Within the federal government it is used by the Department of Health, Education and Welfare.[10]

## C. MANAGEMENT BY OBJECTIVES AND THE INFORMATION SECURITY PROGRAM OF THE COAST GUARD

There is no evidence that the tenets of MBO have ever been made official policy for the purpose of managing the security program in the Coast Guard. Nevertheless, the decade

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[7]Carroll and Tosi, Management by Objectives, p. 1, MacMillan Company, 1973.

[8]Carroll and Tosi, p. 2.

[9]Carroll and Tosi, p. 16.

[10]Brady, R. H., "MBO Goes to Work in the Public Sector," pp. 65-74, Harvard Business Review, March-April 1973.

of the 1970's has seen major developments in the security area which to some extent reflect the increased need for an objectives-oriented way of thinking. In 1972, the Department of Transportation published the Handbook for DOT Personnel Security Program. This document was an attempt at a comprehensive, coordinated presentation of the subject and is still in use today. Much more important to the Coast Guard, however, was the appearance in March, 1974, of the first edition of CG-444, the Coast Guard Security Manual. The two major innovations were: (1) for the first time, the service had an identifiable security program of its own, one that was to be managed as an ongoing, service-wide effort, (2) establishment of the requirement for each Coast Guard command and district office to assign a security specialist, henceforth to be known as the Security Manager. Unquestionably, a new way of dealing with security was in the forecast, and some years were required for the new system to gain acceptance and begin to function efficiently. The Security Manager program is now five years old and is proving to be an important step toward effective management of the classified material network, one which involves nearly every unit in the Coast Guard.

## III. THE CASE FOR MANAGEMENT BY OBJECTIVES

### A. THE ADVANTAGES OF MBO

As one may expect, literature concerning management by objectives usually presents the subject in a favorable light, emphasizing its advantages. From information acquired from those organizations that are managed more successfully than others and that use an objectives-oriented approach, a list of benefits to be obtained under MBO can be compiled. If achieving results can be considered the primary selling point of MBO, the following elements are regarded as tell-tale signs of success.

1. Concentration by people working on their own or as part of a team on the really important tasks instead of dissipating energy on tasks which, even if done superbly well, could have little impact on overall results and growth. It may be true as Karl Albrecht says that within any organization, no matter how well managed, activities such as Busy Work, Make Believe Work, Personal and Social Activities are going on and can never really be stamped out. Albrecht also argues, however, that the wasteful and divisive effects of these activities can be minimized if people are shown what has to be accomplished and are supported along the way.[11]

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[11]Albrecht, K., Successful Management by Objectives, p. 12, Prentice-Hall, 1978.

Carroll and Tosi point out that one of the overwhelming advantages reported by managers responding to their survey of attitudes toward MBO was that people at all levels know what is expected of them by their bosses.[12]

2. The maintenance of proper balance among innovation, flexibility, task-force work, and the need to work effectively in a well designed hierarchy to keep things running well is maintained. Coordination of these somewhat conflicting elements is often enhanced by the goal-oriented working environment, in that compromise may seem more attractive when the overall health of the organization is considered.[13]

3. Forces and aids in planning. MBO ideally forces managers to spend a significant amount of time on activities that will move the organization forward. There is an emphasis on future goals as well as on future problems. One can expect a reduced incidence of crash progress or "fire fighting," endeavors which are costly in their utilization of scarce resources. Another advantage is better integration of all the goals and plans throughout the organization.

4. Provides clear standards for control. Once the objectives are clearly stated and are found to be free of contradiction and possible to attain, the manager can use these objectives to control the activities and performances of his subordinates.

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[12]Carroll and Tosi, p. 24.

[13]Humble, J., How to Manage by Objectives, p. 37, AMACON, 1973.

5. Provides improved motivation among managers. Given that managers in general are found to have high achievement and self-esteem needs, it can be postulated that the establishlishment of specific goals by or for a manager will bring about a higher level of performance than if these goals were absent or ambiguously stated. Experimental research tends to confirm this. MBO provides for allowing subordinate managers to establish their own objectives consistent with overall organizational goals.

6. Reduces role conflict and ambiguity. Since the objectives approach requires the superior to discuss with the subordinate his job goals and the standards of performance used to measure progress toward the attainment of these goals, conflict and ambiguity are reduced. Uncertainty on the part of a manager as to just who he is answerable to and how his work is evaluated almost invariably results in reduced job satisfaction and high levels of tension.

7. Provides more objective appraisal criteria. Some of the evaluation criteria commonly used tend to be counterproductive. Personality trait ratings are difficult to evaluate accurately and may not be closely related to actual performance. Ratings by work output may also be unsatisfactory in that the work performed may be unrelated to any objective of the organization. With MBO, recognition is given to the manager who accomplishes objectives rather than to the one who merely appears to be getting things done.

Likewise, some of the mystery is removed from the evaluation process by stating the standards as quantifiably as possible.

8. Identifies problems better. Provided that MBO implementation includes good boss-subordinate interaction to discuss goal progress, problems may surface early, before they become major difficulties.

9. Improves the development of personnel. In assessing the various definitions of MBO available to the reader, Albrecht states that many "could apply just as well to slavery as to management."[14] He refers to the lack of attention paid to individual improvement and fulfillment by the various theorists. Nonetheless, the development of organizational members is also facilitated by the MBO approach because under MBO "coaching," opportunities are improved and deficiencies or areas for improvement are brought into focus with greater clarity. Receptiveness to criticism can be made more acceptable because the focus is on job-related factors and not on individual personality characteristics.[15]

## B. MBO IN THE PUBLIC SECTOR

One of the distinguishing characteristics of a business enterprise is the presence of "profit," the earning of which is invariably the standard used for measuring effectiveness

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[14]Albrecht, K., p. 20.

[15]Carroll and Tosi, pp. 129-138.

and setting goals in the organization.[16] Most of the literature on MBO concerns its application in the business world. In the public sector, the measurement of output and the determination of appropriate objectives is often quite difficult if not impossible to accomplish quantitatively. Anthony makes it clear, though, that the government manager should attempt to quantify whenever possible. He can do this by subdividing the goal into segments for which tangible definition and measurement can be made. Albrecht believes that managers of non-profit organizations must think in terms of payoffs and objectives even more than their profit-making colleagues must. The reason for this is the absence of the direct relationship between the organization and its clients/customers; in other words, there exists a loose accountability relationship between the parties. This system may be referred to as a "break-loop" system as opposed to a "demand-loop" system. In reality, managers in the public sector must manage by objectives because these objectives are ostensibly their very reasons for existence.[17] As mentioned before, HEW has been using management by objectives for some time. The results have been satisfying, particularly because the challenge of the methodology demands creativity and clarity of thought in problem solving.[18]

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[16]Anthony and Herzlinger, Management Control in Nonprofit Organizations, p. 2, Irwin, 1975.

[17]Albrecht, p. 125.

[18]Brady, pp. 65-74.

Other types of nonprofit organizations successfully use management by objectives and have achieved measurable results to attest to their success. Odiorne points out that a number of church bodies have adopted MBO-centered management systems which have eliminated many activities for which there was no clear purpose. The bottom line for these churches has been steadily increasing membership. They are, like the Coast Guard and other military services, organizations that have a large measure of tradition incorporated in their mode of operation. Although tradition is by no means antithetical to MBO, it must be tempered by reality which calls for a forward looking frame of mind.[19]

C. MBO AND THE SECURITY PROGRAM

An initial assessment of the relevance of management by objectives to the Coast Guard security program may lead one to negative conclusions. A security program may not seem well-suited for MBO treatment when one considers a term introduced by Professor W. J. Haga of the Naval Postgraduate School known as "blunderfret." A blunderfret is a type of behavior found in bureaucratic organizations in which the individual receives little if any reward for a good performance but may be severely upbraided or punished for a mistake. The person responds accordingly with behavior that is cautious,

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[19]Odiorne, G., "The George Odiorne Management by Objectives Newsletter," Volume IX, Number 4, MBO, Inc., April, 1979.

timorous, lacking in creativity, and inflexible with regard to the rules. In many ways, the jobs of custodian of and user of classified material fall within this category. A junior officer newly assigned as custodian often wonders if there is any sort of benefit or opportunity from his position. Since management by objectives rewards innovation, encourages a proper amount of flexibility, and clarifies appraisal criteria, it would seem that perhaps some other, less demanding management philosophy would be appropriate for managing classified material.

The fact is, however, that reward and recognition for a job well done do exist in the security program. The unit Security Manager, custodian, or user of classified material knows full well that having a smoothly run, low-key security program that attracts no attention to itself and goes from one inspection to the next without discrepancies has its own reward. The loss or compromise of a document brings about unwanted attention in the form of investigations, message reports to higher authority, embarrassment to the command, and an unsavory reputation. Every commanding officer is grateful if security discrepancies are avoided and not added to his list of problems. Every fitness report he prepares on a junior officer includes an evaluation of all of the tasks assigned that officer, including custodian and Security Manager.

The existing attitudes or perceptions of various people involved with security are not the topics of discussion in

this paper. This is because MBO is an appropriate way to alter behavior, orienting it toward the goals of the organization. Good attitudes are generally desirable things to have but are inferred from behavior and are not factors which can be manipulated in an effort to change behavior. Management by objectives rewards results, not attitudes, and encourages those behaviors that are commensurate with accomplishment of objectives. If there is an attitude problem in the Coast Guard with regard to classified material, the way to handle it is to adopt a goal-oriented approach complete with more specific rewards for good performance. Perhaps the gratitude of a commanding officer or Admiral filling the shoes of District Commander is reward enough in an MBO system. But as will be discussed later, education and awareness of the problems and the contributions of persons in the program are more vital elements that can spark the whole security program to a new level of achievement.

## IV. POTENTIAL PROBLEMS WITH MANAGEMENT BY OBJECTIVES

### A. PITFALLS IN MBO

Before discussing the implementation and administration of management by objectives and the treatment of specific deficiencies in the Coast Guard security program, it is necessary to mention some of the difficulties involved, with a view toward their prevention.

Although enhanced flexibility was mentioned as one of the selling points of managing by objectives, the reverse can easily happen when procedure replaces judgment, over-control replaces initiative and overall rigidity sets in. One of the causes of this problem is the notion that MBO must be a step-by-step list of procedures to be checked off, whereas in reality it is ordinarily used as a framework with varying degrees of latitude permissible.

The paperwork burden can become excessive. If the manager becomes too enmeshed in the system, so that he "loses the forest for the trees," the paperwork system can act to drain scarce resources. Obsession with plans, reports, status checks, and the like is detrimental to the efficient operation of management by objectives.

Closely related to the problem of rigidity replacing flexibility is the temptation to cling to original plans and timetables even when revision is clearly indicated by circumstances.

A dangerous combination is the attempt to install management by objectives in the context of a punitive Theory X environment, which assumes the need for threats or force to get people to put forth effort. The outcome is often an adversary relationship between manager and subordinate. The latter perceives MBO as a threatening proposition, one that will be used to wrench more effort or work out of him without adequate compensation. Poor performance and inappropriate behavior should be discouraged and punished, but MBO should not be regarded as an invitation to dictatorial styles of management.

Another pitfall is the Too Much, Too Soon situation which typically arises when top management initially decides to establish a management by objectives program. A situation that may otherwise result in enthusiastic support from the subordinates can turn into a state of confusion when managers attempt to do too much, too soon.[20]

Thomas Kleber has compiled a list of the most common errors in goal setting. Of special interest are the five mentioned below.

1. The individual is held accountable for something beyond his control. If objectives are set in areas not controllable by the subordinate, the result may be frustration and discouragement.

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[20]Albrecht, pp. 174-182.

2. The goals fail to identify joint responsibility situations. An individual's goals should identify joint responsibilities, identify who the responsibilities are shared with, and identify as thoroughly as possible the extent of each individual's responsibility.

3. More than one person is given responsibility for a particular objective. It is not desirable that two or more individuals be permitted to believe themselves responsible for doing the same things.

4. Methods of work instead of goals are stressed. There is a tendency to be overly concerned with how a job is accomplished, neglecting the more critical priorities of results and responsibility.

5. Useless numbers are carried as excess baggage on goals. In the quest to quantify all outputs, it may be overlooked that a verbal description of the output can in some situations be more useful and more accurate.[21]

## B. SPECIAL PROBLEMS IN THE MILITARY ENVIRONMENT

At first glance management by objectives would seem a natural system for the typical military organization. To a great extent, the military services, including the Coast Guard, are already highly objective-oriented organizations with clear-cut hierarchies and procedures. But this does

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[21]Kleber, T., "MBO Special Report: Goal Setting Errors," MBO, Inc., 1976.

not say enough because the military manager may be inadequately trained and inexperienced for his job. If he has had operational assignments for the majority of his career, his managerial skills may indeed be quite formidible but be characterized by lack of exposure to a wide variety of situations he is likely to find in other jobs. The military is somewhat unique in this sense. There is frequently a high turnover rate of military managers, a problem that is especially pronounced in the Coast Guard with its intense competition for the good jobs, the service-induced desirability of personnel having the opportunity to work in fields new to them, and the great diversity of jobs a person may encounter in a career. High turnover rates can mean for managers the presence of inexperience and ill-understood boundaries of responsibility.

Management and staff positions do not always have the prestige and career-enhancing potential of operational work. Along this line, a strong tendency exists for the manager to strive for short-term goals and recognition so that evidence of his work will be visible to his superiors. A manager can be working at a torrid pace but be doing things which are unrelated or unimportant to any long-range goals of organization.[22] Recalling once again the ideas of Professor Haga, a situation such as this can be described as a "firecracker," one in which the supposed purpose or nature of the work itself

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[22]Fox, J., Arming America, pp. 188-195, Harvard Press, 1974.

is obscure or non-existent. Realizing this, the person will seek to do those activities that will give evidence of hard work, high visibility, or positive contribution but may make negligible contribution to overall organizational goals.

In light of these problems, the military organization particularly needs to be alert in its use of MBO and not assume that the highly structured nature of the organization precludes difficulties. This section of the thesis is provided solely for the purpose of making potential users of management by objectives aware of some of the background factors possessing a momentum which may be very difficult to correct or deflect.

## V. HOW TO MANAGE BY OBJECTIVES

### A. THE PHASES OF MANAGEMENT BY OBJECTIVES

MBO is a process of planning which is anticipatory in nature and requires considerable preparation. A manager will achieve greatest success using a systematic, phased approach to his task. In nearly all human endeavors, achievement of an objective is a result of a logically ordered sequence of events. MBO allows the manager to perform his task of guiding the organization in a systematic manner.

As with the various definitions of the concept, a variety of implementation schemes are available to the user. As amended for Coast Guard use, eight suggested phases of the process can be described.

1. Defining Roles and Missions
2. Setting Objectives
3. Programming
4. Scheduling
5. Reviewing and Reconciling
6. Controlling
7. Establishing Standards
8. Appraising Performance[23]

The essential elements of management by objectives are captured in this outline. The following material is an

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[23]Morissey, G., Management by Objectives and Results, pp. IX-XII, Addison Wesley, 1970.

explanation of each phase. Figure 2 is a flow chart of these eight activities.

## B. DEFINING ROLES AND MISSIONS

A statement of roles and missions identifies in a general sense the nature and scope of the work to be performed. For the organization as a whole, it identifies broad areas of activity and involvement. For the smaller unit within the organization, the statement includes the unique or distinctive contributions to be made by the manager and his organization to the upper level objectives of the entity, the commitment to be made, and the major types of work that should be undertaken by the unit. Although the process of preparing such a statement can be a difficult and time-consuming one, the effects can make the effort well worthwhile.

What factors are to be addressed by the manager in preparing his list of personal roles and missions? The list should be characterized by broadness of scope and continuity of application. It should be broad enough to cover all significant areas of performance and be a statement of the nature of the work performed. Coordination and delineation of line and staff units or individuals is important, not so that one can be subordinated to the other but so that each understands its relationship to the other. There must be a way to define a unit's or an individual's role in terms of a distinctive contribution. If this is not done, the result is often duplication or lack of effort.

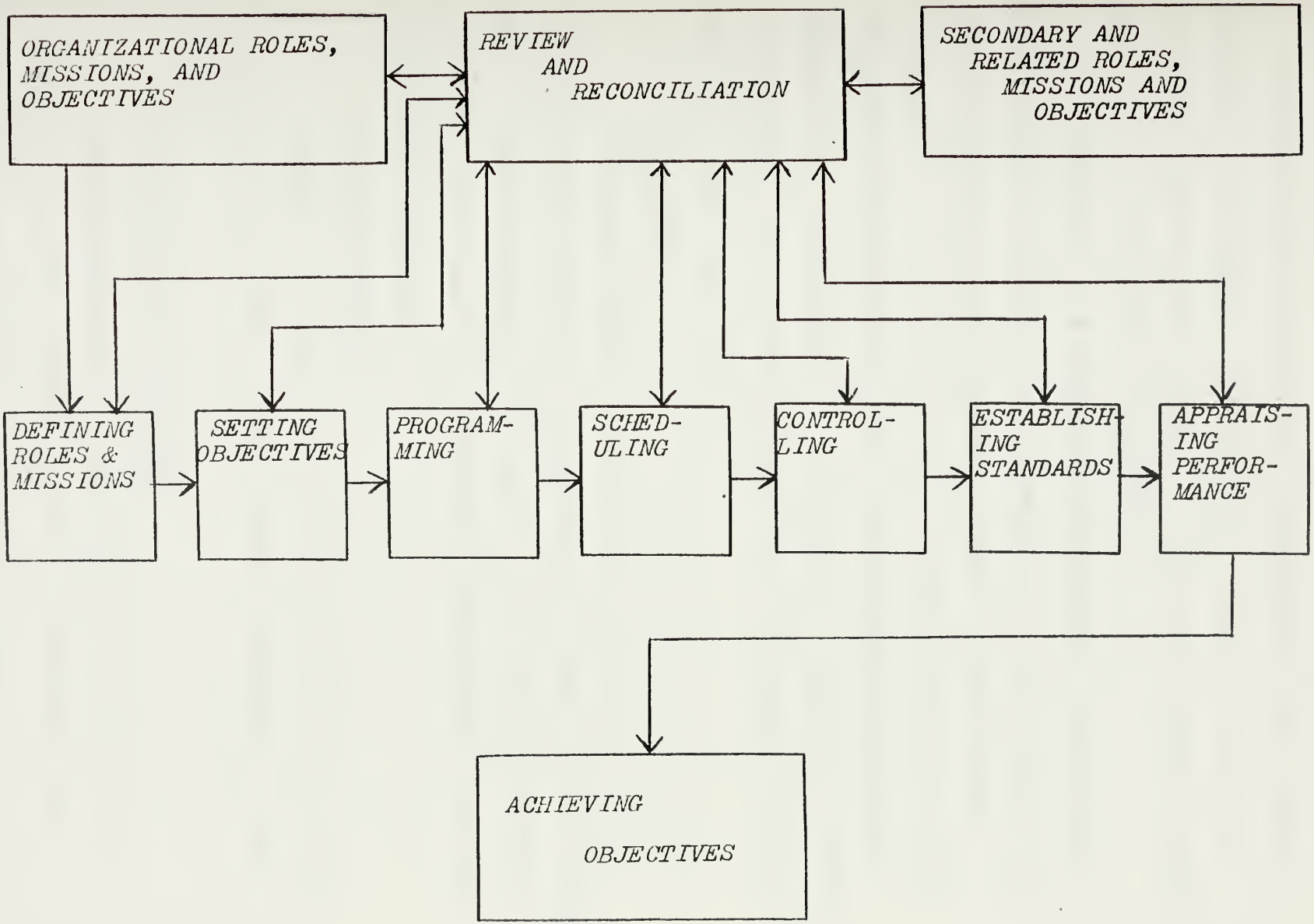


FIGURE TWO

FLOWCHART FOR MBO IMPLEMENTATION

C. SETTING OBJECTIVES

The setting of objectives is perhaps the most critical activity in the MBO process because without it the other activities have little meaning. It may be correctly thought of as the key to effective management.

An objective is a statement of results to be achieved. For the sake of clarity, one should avoid the categorizing of objectives to fit a standard phrase or description, as this process itself may be time-consuming and divert attention from the genuine need for setting a discernible goal. Simplicity in definition is the keynote. The characteristics of an effective goal or objective (The two words are synonymous for this study.) are:

1. Specificity

If quantitative, the objectives are set forth in specific terms instead of abstractions. They directly address what is to be achieved. If qualitative, the goals identify specific conditions which leave as little doubt as possible as to their attainment.

2. Payoff-Oriented

There is no doubt in management's mind that the end conditions have value and are clearly a worthwhile thing to attain.

3. Intrinsically Rewarding

Associated with the goal must be a reward which is attractive to the individual and is a motivating force. This reward may take the form of a recognition accorded the person

for achieving the goal, a payoff associated directly with the goal, or the satisfaction of having maintained a smoothly running program without deficiency.

4. Realism

The target must be reasonably attainable. Uncertainty and a margin of error are accounted for, with the whole system resting on reasonable assumptions about the future.

5. Observability

The goal specifies a set of conditions which can be detected, a target which can be identified to the satisfaction of all concerned, especially the people responsible for its achievement. These conditions will be clearly recognizable when the goal has been achieved.[24]

Very few things cannot be objectivized in some manner. The manager must decide how the work activities should be put into objective form. To be meaningful, goals must account for the normal work output of the unit as well as new or innovative activities. The run-of-the-mill working objectives must not be denied the attention they need.

The manager may find it desirable to start out with a relatively small number of objectives which reflect only a part of the total operation. The advantage here is that a gradual start can be effective for gaining familiarity with MBO and avoiding an abrupt change. The objectives which

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[24]Albrecht, pp. 75-76.

the manager adopts must relate to and support the roles, missions and objectives of his superior and ultimately the organization.

The question of subjectivity arises when goals are clearly perceived but defy statement in measurable terms. The way to deal with such a situation is to place in objective form specific measurable activities which, if accomplished, will logically lead to the subjective goal. An example of a subjective goal is: "to improve communications with subordinates." The manager would then want to conceptualize several activities which could help him to achieve better communication. There is a final aspect to this discussion of goal setting that may not readily come to mind. The physical act of writing the objectives in a manner that will make them effective working tools becomes important. The use of the simplest terminology possible facilitates the achievement of the objective. Additionally, a meaningful objective need not be absolutely defensible in the eyes of all who read it. The amount of verbiage necessary usually makes it prohibitively tiresome even to try. The people involved who have a need to know are the individual manager, his superior who must approve the objective and the manager's subordinates who will help attain the goal. A word of caution -- the objective must be clear for all succeeding and prospective occupiers of the position. It has been stated previously that the military environment experiences relatively rapid turnover of managers. That being the case, the new manager arriving at his desk

must be able to understand the objectives as formulated before his assumption of the position, goals which can then expand or be revised as necessary.

Odiorne advocates the use of scenario writing, in which a verbal picture describing the future in stylistic and verbal imagery is produced. The scenario is not an unrealistic dream but a statement of the conditions that would exist if the organization arrived at some future state successfully. The scenario can be an especially attractive, innovative idea, a modification of an existing situation, or an entirely new concept. The principal function of the scenario is not to supplant objectives but to better define those objectives.[25]

The previous section was concerned with roles and missions. Although it seems difficult to distinguish between "roles and missions" and "setting objectives," the purpose of each is different. The former is basically continuing and less specific in nature. The latter is quite specific and usually includes a definite point of completion or accomplishment. Objectives inject substance, tangibility, and direction into role definition.

## D. PROGRAMMING

Programming may be defined as "establishing a plan of action to follow in reaching objectives."[26] The basic

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[25]Odiorne, G., "The George Odiorne Management by Objectives Newsletter," Volume VIII, Number 11, MBO, Inc., November, 1978.

[26]Morissey, p. 68.

interrogative has changed from "what" in the case of setting objectives to "how" in programming. The manager knows where he is going but needs to decide how to get there. The manager will, when programming an objective, lay out the route to follow by evaluating the various methods available to him. The act of programming is important in another way in that it allows information to enter the process which could make it necessary to reconsider the objective before committing resources.

Programming is accomplished by breaking objectives down into steps leading to the achievement of those objectives. A suggested six-step procedure is as follows:

1. Thoroughly study the situation and select a preliminary means for pursuing the objective.

2. Gain agreement and support if possible by conferring with parties whose support is critical. Subordinates as well as superiors should be consulted.

3. Develop a plan of action to be followed.

4. Test and review the plan by using a pilot run to see if it works. The constraints of time and money may make this step impossible. If so, a scenario that is of some use in predicting success should be developed.

5. Implement the plan.

6. Follow up on the plan with a long-range view toward establishing a complete control system.

The programming process is an excellent avenue for the validation and confirmation of an objective. The process

of examining an objective in terms of its programming requirements may strongly indicate the desirability of modifying or rejecting an objective that originally appeared sound. Clearly, this review process can mean considerable saving in investment of effort. Given that well-prepared objectives will be pursued, programming then becomes the next vital step in the management process of management by objectives.[27]

## E. SCHEDULING

Scheduling may be defined as the setting of time requirements for the orderly accomplishment of objectives and programs. It is integrated throughout the MBO process but it is most critical in programming since the phasing of each step must be planned to ensure satisfactory achievement of the objective. Scheduling involves the assignment of specific blocks of calendar time to the objectives and program steps rather than the allocation of measures such as man-hours and like measures of effort. The management activity requirements of scheduling run the gamut starting with a status of primary importance, requiring extensive research and experimentation, to a much less important or pressing status in which logic or common sense is the foremost ingredient.

A popular and venerable scheduling technique is the Program Evaluation Review Technique (PERT). PERT is a four-step procedure for sequencing and setting milestones in a

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[27]Morissey, p. 74.

logical manner. Initially, each program step should be broken down into its subcomponents of events or milestones. A time estimate is then placed on the activity required to move from one event to the next. A determination is made as to which program steps or events must be done in sequence and which ones can be accomplished in parallel with or independent of each other. Finally, the sequence of events comprising the longest cumulative length of time is determined and established as the critical path or sequence upon which the entire schedule depends. A PERT system is ordinarily represented in the form of a diagram with each event and time requirement explained. It is a useful tool for the manager because a plan is set before him that coordinates the project from initiation to completion.

F. REVIEWING AND RECONCILING

Review and reconciliation is a continuous process that goes on throughout all eight of the management activities in the MBO plan. It provides a chance to confirm or modify what has transpired as new ideas or information surfaces. It also provides a final review of proposed objectives and programs before a firm commitment to action is made.

Things can happen inadvertently -- a critical step was overlooked, something irrelevant worked its way into the system or a major change took place. The review and reconciliation itself may be undertaken by any of five entities: the individual manager himself, other senior or subordinate team

members, a group of disinterested peers, representatives of other organizations, or committee members assembled for just such a purpose. The testing of a plan through the process of review and reconciliation contributes to the effectiveness of the program of management by objectives.

## G. CONTROLLING

"Unless a manager can measure the extent to which he is succeeding and where special attention should be focused to overcome obstacles, it is impossible for him to perform well."[28]

Herein lies the essence of the control function, which works up the activities the manager involves himself with to ensure that work performed is consistent with the work planned. Controlling lies apart from producing activities that are measured in some way by output. To be effectively performed, controlling should provide adequate visibility for the critical factors being measured in a timely fashion with a minimum of effort expended. The extremes of under- and over-controlling are to be avoided, especially when the ease by which a manager can slip to either extreme is considered.[29] Too much information, particularly in the form of paperwork, can paralyze action. Too little can result in ignorance.

The manager must first identify that relatively small number of critical functions that will have the greatest

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[28]Humble, p. 129.

[29]Morissey, p. 103.

impact on the achievement of the objectives. He must then concentrate his efforts toward controlling those activities where the risk is greatest. It is not enough that higher level management have control data available. The manager directly accountable for the action must also have the data simultaneously with top management. It is a discouraging thing for a manager to be told of a problem in his unit via a report first submitted to his superior and then channeled downward. This problem creates inefficiency. In summary, it can be stated that the manager wants to find the balance that will provide him sufficient information to direct the effort of his organization with minimum interruption of productive work.

## H. ESTABLISHING STANDARDS

The establishment of standards is the natural follow-on to controlling. Since the central function of controlling is the measurement of performance, there must be something against which to measure it. Therefore, standards are established which may be defined as a way to determine effective performance in achieving objectives. Without performance standards, there is no clear way of knowing whether the objectives are being achieved or of differentiating between the relative value of work performed by subordinates for whom reward is dispensed commensurate with their contributions.

There is no way of avoiding it -- quite often performance standards will be imperfect and subjective. Hence there may

be a reluctance by managers to use them. Nevertheless, subjective evaluation should be quantified as much as possible and understood for what it is -- an indication of satisfactory performance. A pitfall lies in wait for the unwary, however. There is strong pressure in a bureaucratic organization to establish "scoreboards" or some way of counting individual contributions as standards of measurement. Although the tendency is legitimate, problems occur when inputs are counted as outputs, or work activities irrelevant to the objectives are nevertheless counted as contributions. The actual, desired outputs are obfuscated by those work units which bear little or no relation to desired outputs. Managers must be alert to this most common type of bureaucratic behavior.

A performance standard may itself by an objective. Any worthwhile objective will have one or many performance standards, either stated or implied. The difference is that the performance standards are often more detailed than objectives and are used to measure progress toward an objective. The first problem for the manager is to determine what is to be measured. The second is to determine what point on the scale of measurement is held to be effective performance.

Morissey says that the four basic elements in performance are time, resources, quality, and quantity.[30] The manager must emphasize those critical areas where the probability

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[30]Morrissey, p. 112.

of costly failure is greatest or the payoff of success most substantial. The failure to meet a particular standard is an indication of the need for corrective action.

Some of the measures that can be used as performance standards are: the number and importance of problems and opportunities identified, the percentage of new people trained, success on inspections, and many, many others. It is important to keep in mind that success in achievement of objectives depends to a large extent on the acceptance and comprehension of these standards by subordinate and lower level managers. Having reached that point, the performance standards then become effective management tools which can be used to motivate the subordinates.

## I. APPRAISING PERFORMANCE

Performance appraisal, in the words of Albrecht, has "created more consternation than perhaps any other single issue in American management."[31] And what is the reason for this? "Simply stated, the problem is that most managers do not really appriase performance; they find themselves attempting to evaluate the individual as a person."[32] Although the latter part of this assessment is questionable, there is no denying that performance appraisal is a very difficult function of management.

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[31]Albrecht, p. 153.

[32]Albrecht, p. 153.

With management by objectives the manager and, when appropriate, the subordinates being evaluated appraise the performance. The focus is on the objectives and the progress made toward them. The attitudes or personality traits of the subordinate are set aside as irrelevant. The thing that is relevant is the behavior and performance of the individual as measured by the standards that have been established for, and in some cases, by the individual being evaluated.

It was noted in the previous section on establishing standards that there are a huge number of candidates for measurement criteria and that the manager must select those considered most appropriate. The same holds true for determining the specifics of performance appraisal. The general guidelines may be stated as follows:

1. Appraisals should be conducted in the spirit of openness and in an honest fashion. The integrity of the entire MBO system rests upon the above-board dealings of managers and subordinates so that all concerned can be sure that objectives and performance related to those objectives are the true standards.

2. Performance appraisal should not be an isolated "extra duty" for a manager but an integral element of the process of management. Just as people at different levels confer about problems, opportunities, and objectives, they should also confer about results, progress, and expectations. The goal is to instill objectives-oriented thinking in each person in the organization.

3. Odiorne suggests that the performance appraisal form satisfy six requirements. First, it should include a job description and the name and background of the person filling the job. Second, it should contain a statement of the individual's objectives for the period just prior to the period being evaluated. Third, it should provide a means for modification of the objectives throughout the period being evaluated. Fourth, it should provide a means for noting any interim reviews. Fifth, it should include a summary of the actual results achieved during the period. Sixth, it should provide a means to allow the manager and the subordinate to comment on and compare the subordinate's accomplishments with the stated objectives.[33]

## J. THE OBJECTIVES-ORIENTED MANAGER

What are the characteristics of the objectives-oriented manager? Albrecht mentions a fairly comprehensive list of eight characteristics.

1. The objectives-oriented manager is curious about the purposes of the various activities, including his own.

2. He communicates with his colleagues in terms of objectives by offering courses of action pursuant to established objectives.

3. He communicates with his boss in the same manner as frequently as possible.

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[33]Odiorne, G., "MBO Special Report: Performance Appraisal," MBO, Inc., 1976.

4. He continually tests his own ideas against the key payoff questions. He thinks of ideas in terms of actions required to bring them to fruition.

5. The objectives-oriented manager evaluates other people's ideas and recommends courses of action based on the payoff question.

6. He cultivates in his employees and subordinates objectives-oriented thinking.

7. He rewards and punishes based on a comparison of desired versus actual results.

8. The objectives-oriented manager creates and maintains a reward-centered environment within the organization. He grants subordinates as much autonomy as is consistent with goal achievement.[34]

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[34]Albrecht, pp. 34-35.

# VI. APPLYING MANAGEMENT BY OBJECTIVES TO PROBLEMS OF THE COAST GUARD INFORMATION SECURITY PROGRAM

## A. INTRODUCTION

The first five chapters of this thesis described management by objectives theory and developed a suggested approach to managing by this method. This chapter describes representative problem areas and specific difficulties existing in the Coast Guard security program and shows how the tools and framework of management by objectives can be applied to solve these problems. The long-range aim of this thesis is the improved management of the security program for which this discussion of deficiencies plaguing the program in the short run is useful.

## B. THE TOOLS AND FRAMEWORK

Albrecht has developed a model called the Objectives Tree for use as a systems tool.[35] An adaptation of this model will be used in this paper. The Objectives Tree is a method of presenting the subdivision of an overall objective in terms of the specific contributing and interrelated subobjectives. A filled-in Objective Tree pertinent to this chapter appears in Figure 3. It is a breakdown of the major organizational objective into three branches, each with component problem areas and subobjectives. The major

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[35]Albrecht, pp. 34-35.

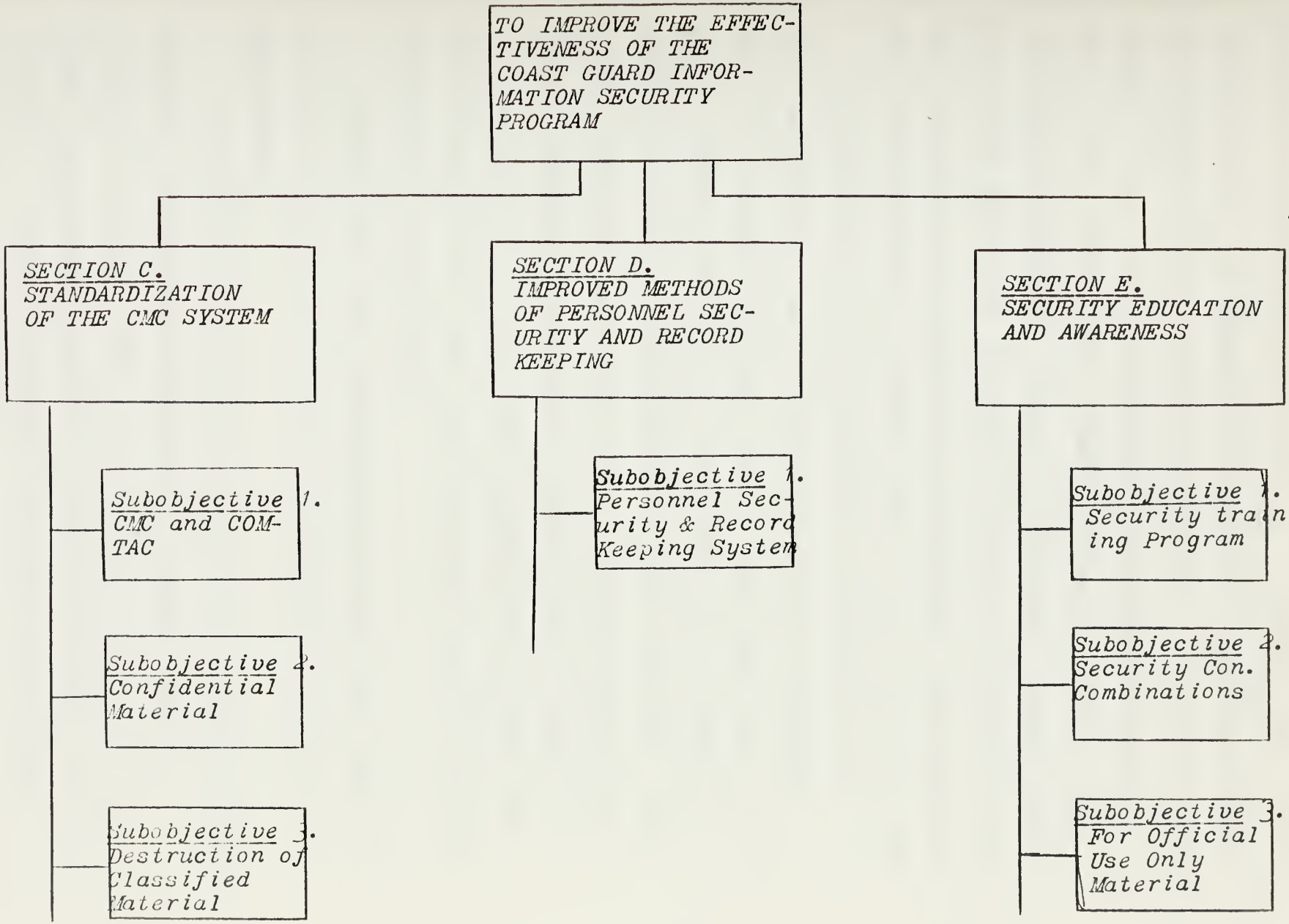
TO IMPROVE THE EFFECTIVENESS OF THE COAST GUARD INFORMATION SECURITY PROGRAM
SECTION C. STANDARDIZATION OF THE CMC SYSTEM
SECTION D. IMPROVED METHODS OF PERSONNEL SECURITY AND RECORD KEEPING
SECTION E. SECURITY EDUCATION AND AWARENESS
Subobjective 1. CMC and COMTAC
Subobjective 2. Confidential Material
Subobjective 3. Destruction of Classified Material
Subobjective 1. Personnel Security & Record Keeping System
Subobjective 1. Security training Program
Subobjective 2. Security Con. Combinations
Subobjective 3. For Official Use Only Material

FIGURE THREE

OBJECTIVES TREE
(Corresponds to format of Chapter VI)

proposed organizational objective is to improve the efficiency, effectiveness, and managerial strength of the Coast Guard's information security program. Sections C, D, and E of this chapter of the thesis correspond to the three branches of Figure 3 and identify and discuss the major problem areas in security management. Each of these major problem areas is in turn dealt with in terms of specific deficiencies for which proposals for correction are offered. These proposals are the subobjectives of each branch of the Objectives Tree.

As mentioned in the introduction, interviews with District Security Managers were conducted by telephone. There were twelve such men, one for each Coast Guard district. Due to absence, vacancy, or transience due to change of station, four of the individuals were not contacted. The eight respondents were interviewed at great length about their jobs using the interview format found in Figure 4. At this point the results from questions one through four, since these are the least complicated and require the least elaboration, are set forth.

All but one of the respondents had held their jobs for at least one year, with several having had two years of experience.

The standard formal training course for District Security Managers is the Defense Industrial Security School in Richmond, Virginia. The course is three weeks long and covers both physical protection measures and good security practices. Five of the eight respondents had attended.

FIGURE 4

DISTRICT SECURITY MANAGER INTERVIEW QUESTIONNAIRE

1. How long have you served as a Security Manager at the District level?

2. What is the extent of the training and preparation you received for your job?

3. Would you describe your job as rewarding and personally satisfying?

4. Since assuming your present billet as Security Manager, how would you describe the performance of the various units and commands under your jurisdiction in terms of security?

5. What would you point out as the most serious problem with the security program? Other problems?

6. How would you rate the progress of the commands within your district with respect to security education?

7. What is the most encouraging improvement that you have seen?

8. Have you any recommendations other than ones we have already discussed?

Perhaps of greater significance was the experience each brought to his job. All of them had been Radiomen of the senior enlisted grades before being appointed to Chief Warrant Officer. This means that they each had up to twenty years of experience in handling classified matter and dealing with security problems.

Half of the interviewees considered their work to be highly rewarding and satisfying. Three were more moderate in their enthusiasm but generally agreed that the job was rewarding. One found his job to be totally distasteful.

Security Managers expressed a variety of opinions about improvement trends since their work began. Three reported "very significant" or "great" progress for the units in their districts. Four answered in the affirmative but with reservations. One could not make a determination because of his recent arrival on the scene.

The third tool of analysis used in this research was the examination of security inspection records for Twelfth Coast Guard District operational units. U.S. Coast Guard CG-5062, the Security Inspection Check List, is the standard, all-inclusive form used by Security Managers on their annual inspections of the commands in their districts. This document is written in such detail and with such precision that a good understanding of the condition of a given unit can be obtained from a careful perusal of its contents and remarks. The following points should be borne in mind with respect to the data culled from CG-5062:

1. The numbers of pieces of classified material held varied from several hundred at the larger commands to less than ten at smaller ones. This variation is not felt to be a problem for the purposes of this study because the Security Inspection Check List is used to evaluate procedure which is not affected significantly by the size of the holdings.

2. The Twelfth Coast Guard District was one of the better-managed districts in terms of security matters. The problems revealed by the study were generally of a less serious nature. The notable feature was that four particular discrepancies appeared with consistency at a significant number of units. Only the most recent year's reports were used.

3. The author received from Coast Guard Headquarters recent supporting documentation in the form of CG-5062's from several large units with large holdings of classified material. Unfortunately for the Coast Guard, the inspections, all conducted within the past year, revealed security problems significant enough to draw the attention of Headquarters level managers and to require special assistance at that level. This was clear evidence that all was not well with security elsewhere in the Coast Guard. For the protection of those units with difficulties and in accordance with standard procedure, the names, locations, and specifics of their problems are not disclosed herein.

The following sections of this chapter take up the discussion of major problem areas and provide proposals for their treatment.

## C. CLASSIFIED MATERIAL CONTROL SYSTEM STANDARDIZATION

Classified material is categorized into three systems of accountability. First there is Communications Security Material (COMSEC), which is primarily cryptographic and communication related. It is Department of Defense owned and controlled and totally centralized. In other words, COMSEC clearly stands apart from related classified matter and is easily distinguishable by its issue and accountability requirements. Second, there are Communications and Tactical Doctrine (COMTAC) publications. COMTAC material is distributed and controlled by the U.S. Navy and is made available to Coast Guard units so that military cooperation and coordination between the two services can be maintained. COMTAC documents principally deal with techniques of naval warfare and naval capability. Last but not least is the Classified Material Control (CMC) System into which all other classified material is placed. The documents composing the CMC system originate from numerous and far-flung government sources and cover a wide range of subjects. There is no contral control or distribution authority for CMC documents.

When the District Security Manager makes his annual inspection of a unit in his district using CG-5062, he is concerned with the CMC system in its entirety and with the

general condition of physical security, primarily the condition and propriety of security containers and other protection devices. He does not inspect COMSEC and COMTAC systems but is authorized to suggest improvements to these systems within the overall framework of the unit's security education and awareness program.

Referring to Figure 3, the left branch of the Objectives Tree lists the problem of Standardization of the CMC System. Items 1, 2, and 3 of this section correspond to the sub-objectives found on this branch of the objectives tree. In calling for increased standardization of the CMC system, the desired state of affairs is the consistent application of control, accounting, and handling procedures for this material. Standardization is, moreover, an excellent way to reduce uncertainty and confusion which results from lack of procedural clarity.

1. CMC and COMTAC

The difference in handling and control procedures between COMTAC and CMC accounts is not clear. The problem is this: The Coast Guard Security Manual claims complete authority and sole jurisdiction over all classified material not designated as COMSEC. Consequently, a question arises as to whether it is intended that COMTAC, as well as CMC material, fall within the purview of CG-444. Another publication, entitled COMTAC Publications Index, CG-236-1, lays out in detail the handling and accountability requirements for COMTAC. These procedures are virtually identical

to the Navy's system and differ considerably from the Security Manual's CMC procedures. The consensus among people familiar with both systems is that CG-236-1, a manual distributed by the Office of Telecommunications Policy (G-OTM), has general control over the material designated by it as COMTAC. CG-444, a product of the Office of Investigations and Security (G-OIS), controls the remainder, designated as CMC. These distinctions have not been clear, however, to numerous users in the field. Three of the District Security Managers have reported that publications have been handled under the wrong systems and that many custodians are not sure as to the differences between the systems. The problem is compounded by the fact that the Coast Guard Security Manual uses terms such as CMC and CMCO (Classified Material Control Officer) and nowhere defines them, delineates them, or provides a job description for a CMCO. The handling procedures are thoroughly laid out, but the manual does not address the system as a CMC program or body of material to be recognized as such. The objective for the manager using MBO is to clarify the differences between CMC and COMTAC and to provide more specific guidance to custodians and users as to the nature of CMC.

Pursuant to rectifying this discrepancy within an MBO context, Headquarters (G-OIS) managers should promulgate an amendment or appendix to CG-444 making the needed clarifications pointed out above, to include a description of the type of work that a CMCO is expected to perform. District

Security Managers have the continuing task of keeping people at the unit level informed on these and all other security matters. Their tasks may range from paying specific attention during security inspections on visits to units in their districts to pointing out potential problem areas. In addition to the need for setting objectives to correct the problem, duties and mission determinations, as in the case of the CMCO, require attention along with the establishment of a plan of action for accomplishment of the objective.

Progress made toward the attainment of this objective of clarifying the differences between CMC and COMTAC and the nature of CMC itself can be determined by calculating the reduction in the number of instances in which material from one system is accounted for and handled by the rules of the other system. Reports of annual inspections by District Security Managers cite such discrepancies. Moreover, a pervasive confidence on the part of custodians that the two systems are well delineated and present no problems of confusion or overlap would be a direct benefit and positive check.

2. Confidential Material

"Confidential" is the classification given to material, the unauthorized disclosure of which could reasonably be expected to cause identifiable damage to national security. Difficulties and uncertainties exist with respect to the requirements for handling, accounting for, and reporting compromise of Confidential material. The problem stems from the fact that Confidential is the lowest of three possible

classifications. By far the largest number of classified documents are so labeled. Since there is so much material of this type, classifying authorities have the decision to either declassify some of it or to liberalize control procedures to avoid the situation of having a huge number of publications on hand that are difficult to gain access to because of handling restrictions. By choosing the latter course of action, G-OIS has taken the step of removing Confidential matter from accountability.[36] As has been the case in DOD for several years, Confidential CMC documents are not accountable, either by quantity or by individual document, the custodian needing only to record date of receipt and date of destruction of the individual document in some way on a form or sheet of paper of his choosing. But concurrently, the Coast Guard Security Manual requires the following:

> a. If a Confidential item is discovered missing, left in an unprotected state, or otherwise subjected to compromise, the command must make prompt report to both its district superior and G-OIS by message, beginning the laborious process of determining why the incident occurred, whose fault it was, what is being done to prevent recurrence, and so forth. All of this is for a document that is non-accountable, is not subject to inventory control, and need not be sighted or verified in any way under normal conditions. Obviously, these are conflicting guidelines.

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[36] Security Manual, p. 10-6.

b. The container storage requirements for Confidential publications are essentially the same as the requirements for Secret material which is stored and accounted for under fairly rigid guidelines.

c. If a change or amendment is to be entered in the basic Confidential publication, the publication must be checked carefully for the presence of each page after the entry is made. This is a peculiar requirement because it is difficult to understand why the individual pages of the document become for that moment accountable but the document itself is not.

From the standpoint of management by objectives, the basic problem seems to be confusion over the type of program necessary for expeditious but secure use of Confidential. It is not surprising that many custodians, users, and security managers report difficulties with the handling of Confidential material, a fact confirmed by several of the District Security Managers interviewed.

The objective for the manager using MBO is to revise the handling of Confidential classified material to maximize its security, keeping in mind the operational needs for its ready accessibility.

In terms of strategy for solution of this problem, G-OIS should deal primarily with the dilemma facing custodians. If a publication is important enough to report if compromised, to stow securely when not in use, and to page-check when amended, it should be considered important enough to require

positive accountability. CG-444 should be revised accordingly. District Security Managers should, as several have already done, immediately institute positive control requirements for Confidential independently. They have authority via the District Commander to impose such requirements on all Coast Guard units within their jurisdiction. It is important that unit Security Managers and custodians realize the jeopardy they are subject to if Confidential material circulates at their command which is not properly accounted for. If the material is brought under positive accountability, a cost will be incurred in more man-hours of paper work required in the performance of those mundane chores of accountability. The cost is probably well worth it, however, if the embarrassing and career-damaging event of a compromise can be averted. It could likewise be worth the benefit in national security and operational secrecy. Handlers of classified material have every reason to believe that information protected from public disclosure is so designated for a legitimate reason.

Progress made toward the attainment of this objective of clarifying the use of Confidential material would be difficult to determine. Perhaps the two best possible indicators would be, first, a reduction in the reported losses of entire documents or publications classified Confidential. Second, the added satisfaction obtained by custodians and unit Security Managers from a tightened accounting system for this material could indicate the importance of this objective

from their personal standpoint. These individuals would have less to worry about because records would always indicate the location and holder of any particular document.

3. Destruction of Classified Material

The Coast Guard Security Manual requires classified material to be destroyed "as soon as it is no longer required." That ambiguous statement is the extent to which CG-444 provides guidance to custodians concerning when they are authorized to destroy a document. Nothing about the meaning of supercession or the sources of authority required for destruction is provided to assist the custodian in making timely disposal of unneeded classified matter. It is not surprising, therefore, that in the most recent security inspection of units in the Twelfth Coast Guard District, forty-four percent were cited for not destroying documents as soon as practicable. People are understandably reluctant to destroy something unless they are absolutely sure that destruction is authorized. District Security Managers reporting excess material in CMC accounts have found the chief reason to be uncertainty on the part of custodians as to the proper disposition of the material. The retention of superseded or other excess material is discouraged because it becomes one more addition to the administrative burden of the custodian. It also consumes expensive space in storage containers. But, most importantly, certain categories of superseded material are dated, historical information not subject to change or alteration. A good example is COMTAC exercise and warfare

publications. It is therefore in many cases more useful to a foreign government or hostile organization because of the light it can shed on operations, exercises, or policy orchestrated when it was being used.

The objective for the manager using MBO is to expedite the disposal of unneeded classified material and to reduce the expensive and cumbersome presence of those superseded items frequently retained beyond their authorized date of destruction.

The solution to this problem is not necessarily difficult to formulate. In many cases, when a document arrives at a unit and supersedes an existing document, the Letter of Promulgation of the new arrival will specifically authorize the destruction of its predecessor. But for the benefit of cautious custodians, written explanation should be disseminated of those conditions, terminologies, and situations in which authority is granted for the destruction of classified material. As with other problems, revision of the Coast Guard Security Manual could prove to be most helpful in correcting an annoying but potentially serious security problem.

Progress made toward attainment of this objective is relatively easy to determine. The reduction of instances in which superseded, unnecessary documents or publications are found in the CMC accounts would be the best indication of success. Indirectly, a saving would be realized because of a reduced need for storage space and purchase of new containers

to store superseded material. District Security Managers would be in the best position to evaluate the degree of success in this endeavor.

## D. PERSONNEL SECURITY AND RECORDS

Personnel security in the Coast Guard is concerned with such matters as background investigations, national agency checks, security clearances, and access to classified material. The publication addressing personnel security is the Military Personnel Security Program Manual, CG-207-1. The use of this document requires careful examination and interpretation. It is, in fact, one possible source of the problems associated with personnel security. In the experience of the author, CG-207-1 is one of the most criticized manuals in use by the service. The criticism arises from an apparent misunderstanding of the requirements it sets forth. The basic aim of the personnel security program is to ensure that users of classified material meet all criteria for clearance and access to classified material and that determination of eligibility for access can be made in an expeditious manner.

The cornerstone upon which the personnel security program is constructed is this: The commanding officer or competent authority acting in his stead has the final and absolute power to grant, suspend, terminate, or refuse clearance and access to any person under his command with regard to classified material at his command. There is a

definite procedure he must follow if he wishes to terminate a person's security clearance for cause, but the principle holds that the commanding officer is ultimately responsible for all people and material under his command, including all classified material. The resources of the personnel security program, including investigative background work by the special agents in G-OIS and the Office of Personnel Security (G-PS), which reviews and files completed investigations for use by requesting commands, are essentially at the disposal of commanding officers.

Figure 3 displays the second branch of the Objectives Tree which calls for Improved Methods of Personnel Security and Record Keeping. Since these two areas are so closely related, they will be discussed together. Item 1 of this section on personnel security and record keeping corresponds to the subobjective found on this branch of the Objectives Tree.

1. The Personnel Security and Record Keeping System

The eight District Managers interviewed were unanimous in their displeasure with the confusion in the personnel security program. The problems are widespread. Since a full review of the requirements, procedures, and pitfalls would comprise a thesis-length document itself, it is necessary in this case to go right to the point. The inefficiency of the present system routinely results in two things: delay in granting clearance and access to persons requiring possession of classified material in the performance

of their duties and redundant, needless processing of clearance/access documents.

Commanding officers are anxious to minimize the time and other resources expended on what should be the simplest of tasks. The root of the problem is the Service Record (S/R), essentially a biography of the service career of an individual member. The Service Record contains two groups of material: sheets called "numbered pages" which are standard for every S/R, providing data on medals and awards, clothing issues, basic training records, and contractual matters; and the unnumbered pages which cover a variety of things considered pertinent or desirable. The numbered pages are permanent and not to be removed, but the unnumbered pages are temporary, often being removed after bulky accumulation or reviews at time of reenlistment. There are a minimum of three documents that must be present in the S/R before a member receives clearance or access: the Certificate of Clearance, the Acknowledgement/Termination Statement, and a "source" document confirming successful completion of investigative requirements. These documents are among the unnumbered and it is purely a matter of chance whether all three or any will be found in the Service Record of a new arrival reporting for duty. Occasionally photocopies of these documents are discovered but these are worthless because original signatures are required. Getting all the paperwork in order, including necessary correspondence, can take weeks while the member waiting for access spends his

time in other, often minimally productive, activities until everything is cleared up and he can get on with his job.

There are other accompanying problems. Some commanding officers and unit Security Managers do not understand the difference between access and clearance. Uncertainty exists as to whether a security clearance granted by an individual's previous CO automatically grants the member access to material at his new command or whether a new security clearance certificate must be issued. Neither notion is correct. An even more common mistaken idea is that when a member departs the command, his security clearance as well as access must be canceled. The true situation is that security clearances are transferable from one command to another, but access is not. Another error ocasionally encountered is failure by the unit Security Manager to review the personnel records of an individual. This must be accomplished satisfactorily so that the commanding officer can continue the clearance of the person and permit access.

The objective for the manager using MBO is to revise the personnel security and record keeping system to make it more clearly understood and efficiently operated everywhere in the Coast Guard.

The problems mentioned above can be handily treated as a case for the application of management by objectives. If our objective is the expeditious handling of personnel security to provide speedy access and accurate record keeping which enhances the integrity of the program, then perhaps

some major changes are called for. Serious consideration should be given to a type of program used by the Air Force. Their system works well and is so easy to maintain that as a model it is well worth the Coast Guard's attention. When a person enters the Air Force, he, along with every other recruit, is investigated in accordance with the requirement for a Secret security clearance. (If the person will be assigned a rating or highly classified job requiring a Top Secret clearance, the much more extensive background investigation is begun concurrently.) Upon successful completion of the investigation, the person is issued a permanent Secret clearance which he will retain, barring termination for cause, for the remainder of his time in the service. He is briefed concerning his obligations concomitant with issuance of this clearance. This certificate of clearance then becomes a permanent, accountable part of his Service Record. Henceforth, provided his clearance is not canceled at some time in his career for reasons of disloyalty or gross misconduct, commanding officers need no longer concern themselves with originating or terminating his clearance but only with determining whether the individual requires access or not. Access records are purely local items and do not become a permanent part of the record. Clearly, this is a very efficient system.

Should the Coast Guard adopt a program similar to this one, the District Security Managers would then have the weighty responsibility of implementation and education

throughout their districts. Since what has been proposed is a major modification, management by objectives in all of its eight phases would be an especially useful tool for the managers effecting the change.

Progress made toward attainment of this objective of streamlining the personnel security system can be determined by the reduction of delays in processing clearance and access. With the improved system, the expectation would be that each member would move throughout the Coast Guard in the course of his career with a greatly reduced likelihood of problems with clearance and access. The benefit would be realized at the individual unit level where commanding officers and unit Security Managers would find the task of issuing clearances and granting access would be expedited.

## E. SECURITY EDUCATION AND AWARENESS

At the heart of the Coast Guard's information security program lies the topic of this section of the thesis. Literature, movies, training courses, and scheduled lectures are features of a growing effort to increase the level of security awareness among all members of the Coast Guard. A sub-section of CG-5062 is entitled "Security Education and Awareness" and this subject is an important part of each annual inspection. The eight District Security Managers interviewed were all concerned with the subject and had much to say about it. A variety of opinions on the progress being made toward improved security education were revealed, ranging from "very significant" to "wastefully inadequate." All believed, however,

that deficiencies continue to plague the system, making everyone's work much more difficult than necessary.

The office of the G-OIS has produced a document called the Security Education Manual, CG-444-1, as an adjunct to the Security Manual. Its purpose is to serve as the primary source of guidance for the security education, orientation, and training program within the Coast Guard.[37] This publication is in many respects a sound, useful guide to the program. It discusses various kinds of breifings that are required or desirable for individuals working with classified material. The format of the manual's chapter on program implementation is remarkably similar to the steps set forth previously for using management by objectives. Despite these positive facts, the Security Education Manual probably has only a minor impact on the way security affairs are conducted in the Coast Guard. The two reasons for this are: (1) the content is very general in its coverage of security education, and (2) most of the ideas presented therein are phrased as suggestions instead of requirements. The general impression of the author and many other ex-Security Managers and custodians is that few people have read or used CG-444-1. Many people in the Coast Guard security program are not even aware that it exists.

This section is an expansion of the third branch of Figure 3. It includes discussion of three specific problems

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[37]U.S. Coast Guard, Office of Investigations ans Security, Security Education Manual, CG-444-1, p. 1, 1978.

within the general topic of Security Education and Awareness. Items 1, 2, and 3 of this section correspond to the sub-objectives found on this branch of the Objectives Tree.

1. Security Training Program

To increase the competence of District Security Managers, the services of the Defense Industrial Security Institute in Richmond, Virginia, are used. A three-week course is available on all aspects of security management. The policy of the Coast Guard is to provide this valuable training to each person assuming this crucial position. But when attention is shifted to the unit level, it is found that Security Managers and custodians of CMC and COMTAC libraries are trying to do their jobs with virtually no training whatsoever. There is no program for training unit level managers on a service-wide level, nor is there a minimum competency requirement they must attain before they assume their duties. By way of contrast, the tightly controlled, highly organized COMSEC program requires attendance by prospective custodians at a one-week school for intensive training in the system. Even with this training and the rigid by-the-numbers method required for its management, thousands of errors are reportedly committed by COMSEC custodians every year. One can only speculate on the number of mistakes in CMC, both reported and unreported, that occur each year, in some cases subjecting matter to loss or compromise. The typical newly commissioned junior officer reporting aboard his first unit often finds that one of his first jobs is to relieve either CMC or COMTAC

custodians or both as soon as possible. After doing this, he must then proceed to "feel" his way through the system, culling what guidance he can from his predecessor and the manuals. Similarly, a junior officer receiving assignment to his unit's Security Manager post finds himself doing much the same thing. The absence of substantive training programs for managers of classified material is indisputable. Although it may be impossible to prove beyond question that the lack of mandatory, formal training programs for managers contributes to poorly managed security programs, this possibility certainly exists.

The objective for the manager using MBO is to raise the level of training and competence for all custodians, Security Managers, and users involved in the security program.

Any number of things can be done in an objectives-oriented context to rectify the deficiencies in security education. One suggestion is to introduce the security program into the professional studies curriculum for Coast Guard Academy and Officer Candidate School cadets. Real possibilities exist here because these two groups are a captive audience and because the vast majority of CMC and COMTAC custodians and unit Security managers are at the Ensign (O-1) and Lieutenant, j.g. (O-2) level. Although the training and promotion program for enlisted persons of the Radioman rating includes some security-related subjects, senior enlisted personnel, E-7 or above, who assume custodial roles should be similarly trained. Finally, an aggressive,

locally implemented program that is specific and mandatory, tailored for each person involved with classified material in the Coast Guard should be considered. Since District Security Managers are heavily involved with security education, their contribution to overseeing the process will be crucial to the success of the effort.

Progress made toward attainment of this objective of improved security education would be difficult to quantify. Probably the best indicator would be heightened awareness and knowledge of the entire security area on the part of users, custodians, and unit Security Managers. The District Security Managers are in the best position to evaluate such progress. Additionally, it may be assumed that repeated good performances on security inspections speak for a unit's adequate educational level over a long period of time. This good performance measure is the best way to make a quantifiable statement concerning a command's educational level.

2. Security Container Combinations

A seemingly trivial but persistent educational problem in the security program concerns the control of security container combinations. The seriousness of this aspect of security education becomes more apparent when the consequences of a compromised combination are considered. The loss of one document or part of a document is undesirable, but such a loss pales next to the effects of a compromise of an entire security container's contents that could result from the loss

of unauthorized disclosure of the combination to that container. The combination is a bit of information that is itself classified at the level of the highest classification of the material safeguarded within the container and is to be changed on those occasions specified in the Coast Guard Security Manual. That publication fails again to complete its explanatory function when it neglects to provide handling instructions for combination control. It makes no provisions for the problems and procedures of accountability of combination record forms. Half of the District Security Managers reported problems with regard to combinations, ranging from failure to make changes at the required intervals to mishandling of combination forms, endangering thereby the security of material stowed in the corresponding containers. In the Twelfth Coast Guard District, a recent security inspection revealed that more than one-third of the units were guilty of minor infractions relating to improper handling procedures with regard to classified combinations.

The objective for the manager using MBO is to improve the control and handling of classified container combinations.

A suggested objectives-oriented solution would consist primarily of a categorization of the accountability and security requirements for classified combinations. Also needed is the training of people having access to classified security containers concerning this vital link of classified combinations. More than with any other problem previously discussed, Security Managers at individual units must bear

the brunt of ensuring that people working for them adhere to good security practices.

Progress made toward attainment of this objective of improved combination control would be very difficult to quantify. It would be virtually impossible to determine that, as a direct result of the improvements recommended above, the number of people involved in security practices with potentially hazardous outcomes had been reduced. It could be expected, however, that the annual security inspections would reveal a trend toward improved awareness of the importance of this vital link in the security chain.

3. For Official Use Only Material

Some information generated and used by the Coast Guard is unclassified but requires protection against uncontrolled release to the public at the time of its origination or receipt. It does not fall within the requirements for safeguarding information in the interest of national security. The designation of this material is "For Official Use Only" (FOUO). The Security Manual goes into great detail about FOUO information, attempting to remove uncertainty about its nature and handling. Despite this comprehensive treatment of the subject, several of the District Security Managers stated that many people are confused about the modus operandi for handling FUOU material. The most common problem reported was that people were entering For Official Use Only documents in their CMC systems. This is definitely an outlawed practice because CMC should contain classified matter only. A second

problem is unfamiliarity with the rules regarding release and dissemination of FOUO to the press and other persons.

The objective for the manager using MBO is to improve the handling and control of For Official Use Only material and to increase the awareness of the role this material plays in Coast Guard operations.

The solution to these problems lies in the education of Coast Guard personnel, almost all of whom come into contact with For Official Use Only information in the course of their duties, by unit and District Security Managers. Not much else needs to be done. The task should be one of high priority, however, because the Coast Guard has been using an increasingly voluminous amount of FOUO material. Most of the information so designated concerns drug and law enforcement, a mission area moving into first place on the Coast Guard's priority list.

Progress made toward attainment of this objective would be determined by a reduction in the number of instances in which FOUO is improperly handled. This determination would be made by District Security Managers who could readily detect the careless or overly cautious measures being used to control the material.

# VII. CONCLUSION

This thesis has had as its primary goal the presentation of a theory of management known as management by objectives in a format that can be used by the Coast Guard manager for the information security program. . The problems discussed in this paper are both troublesome and persistent, and especially well suited to the systematic approach discussed in Chapter V for their solutions. Management by objectives is sometimes criticized as a somewhat simplistic managerial philosophy, of only limited usefulness. The truth or falsity of this is not the issue here. The fact is that the information security program in the Coast Guard need not be a complicated or nerve-wracking system calling for rapid, high-level decision making. Although the program is vital for the secure, effective circulation of data throughout the service and for the maintenance of a high level of operational readiness, it is basically a support program -- predictable and routine for the most part.

This thesis has called for the establishment of objectives for improving the management of information security. It has done so by advocating more education, formalization, and standardization -- in short, more "organization" instead of less. The reason for this is clearcut: The Coast Guard is a bureaucracy in the true Weberian sense and certain of its programs will function more efficiently as the amount of

latitude and uncertainty on the part of members is reduced. Information security requires good management, and using MBO in the bureaucratic setting is in the best interests of large organizations. One of the more emphatic District Security Managers expressed himself on this subject in no uncertain terms. To paraphrase, he said that the only sane and rational way to run this business of security is to write the book well, train people to use the book exactly, and require that they do so. In his own district, he has instituted a drive to independently clarify the publications relating to security and to train his unit Security Managers and custodians to follow his system precisely. He results so far have been warmly received by Headquarters people. One may wonder if line/staff friction exists in the security program since a staff member at the district level, i.e., the Security Manager, occupies what is unquestionably a position of supervision over unit Security Managers, for the most part operational types. To the author's knowledge, this has never been a problem, primarily because the District Security Managers perform their jobs with such competence and low-key exposure that they are universally respected as true professionals. With first-rate management, as conceptualized by management by objectives, the security program can function with great efficiency to the benefit of the Coast Guard.

This thesis does not intend to convey the idea that everything is presently in poor condition. Many, many units have achieved high levels of proficiency in the security

area and boast of a well trained cadre of Security Managers, custodians, and ordinary users. The call for universal standardization and training is convincing when one remembers that these good people will be serving at their jobs for only a very short period of time, perhaps one year on the average, and will then be replaced by people perhaps less motivated, interested, and able. Our goal should be to raise the overall level of proficiency throughout the Coast Guard.

Much work remains undone. It is hoped that this paper will lay the groundwork for an effort to do things which will bring an improvement to the Coast Guard information security program and that management by objectives will be the vehicle used to attain that improvement.

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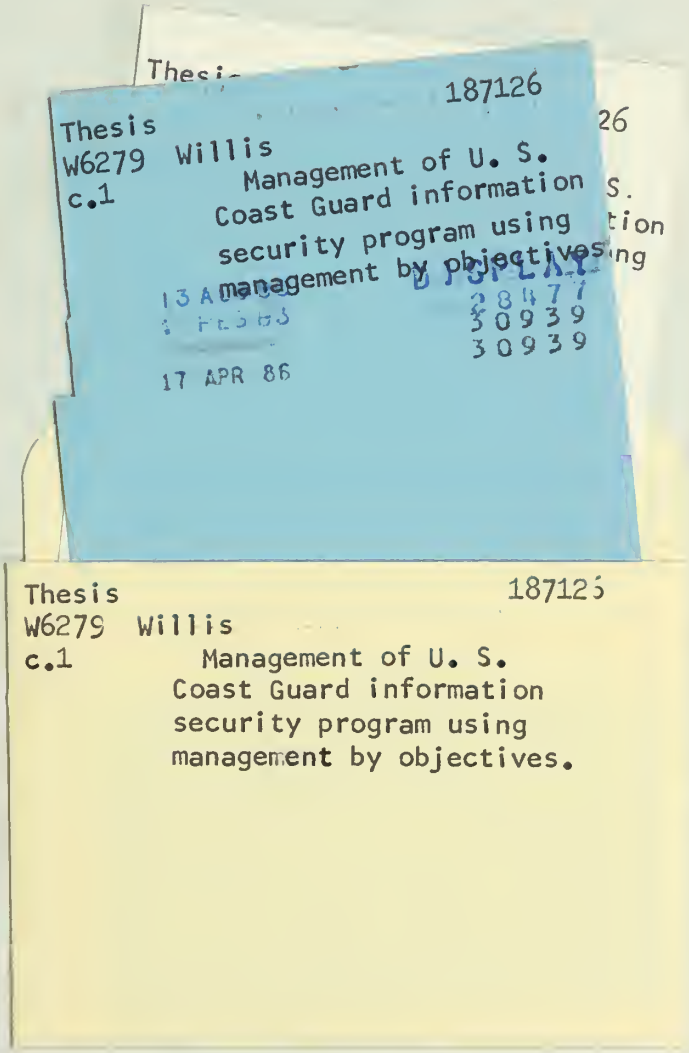
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